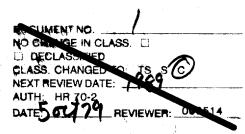
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PROVISIONAL INTELLIGENCE REPORT

PRODUCTION OF SMALL ARMS, MORTARS, AND ARTILLERY IN THE EUROPEAN SATELLITES



CIA/RR PR-79



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(ORR Project 31.211)

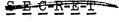
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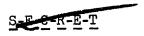
FOREWORD

This project has been coordinated on an informal basis with the interested sections of Army Intelligence G-2 and with AFOIN. This coordination does not necessarily indicate an acceptance by these agencies of the estimates contained herein.

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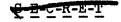
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CIA/RR PR-79 (ORR Project 31.211)

PRODUCTION OF SMALL ARMS, MORTARS, AND ARTILLERY IN THE EUROPEAN SATELLITES*

Summary

The production of small arms, mortars, and artillery in the European Satellites is directed by the USSR, whose policy decisions are implemented by strong formal and informal Soviet controls. The over-all pattern of production apparently takes into account political and military factors as well as the capacity of the individual Satellite to produce weapons.

The production of small arms in the European Satellites during the fiscal year 1954 is estimated at about 400,000 units, an amount sufficient for current requirements, exports, and to increase reserves. The production of mortars during the same period is estimated at about 1,700 pieces, which is enough to cover losses by attrition and to build up reserves. The production of artillery is much below current requirements, and virtually all Satellite artillery pieces are imported from the USSR.

Czechoslovakia, Hungary, and Poland together produce 92 percent of the small arms and 99 percent of the mortars produced in the European Satellites. Czechoslovakia produces almost all of the artillery. Although East Germany produces about 5 percent of the small arms, the total production of East Germany, Rumania, Bulgaria, and Albania is a negligible part of the total weapons** production of the European Satellites.

The weapons industries of the European Satellites are not particularly vulnerable with respect to supplies of raw materials, manpower, and equipment. The production of weapons by the European Satellites at the present rate does not now indicate hostile intentions on the part of the Soviet Bloc.

* The estimates and conclusions contained in this report represent the best judgment of the responsible analyst as of 1 July 1954.

** The term weapons as used throughout this report refers only to small arms, mortars, and artillery.

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I. Weapons Industries in the European Satellites.*

A. Czechoslovakia.

Czechoslovakia is the leading producer of armaments among the European Satellites and is probably capable of producing a complete range of weapons in quantities sufficient to fulfill domestic needs and to provide weapons for export to other countries. Present production includes small arms of all types from pistols to heavy machine guns and artillery of light and heavy calibers. Mortars are probably being manufactured, but little information on production is available. Czechoslovakia is the only Satellite which has continued to test and develop weapons of its own design on an appreciable scale.

Two of the main weapons producers in Czechoslovakia during World War II were the Skoda Plant, which produced light, medium, and heavy artillery as well as other heavy armaments, and the Zbrojovka Plant, which produced small arms. Skoda reportedly produced 2,400 artillery pieces a year during the war, and the Zbrojovka Plant in 1944 produced 700,000 rifles and 100,000 machine guns. 1/** A part of the armaments production of the Skoda Plant was moved from Pilsen to Dubnica Nad Vahom after World War II. The armaments industry was not greatly affected by Soviet reparations following the war.

In the postwar years, the Skoda and Zbrojovka Plants have continued to produce armaments. Skoda produced small quantities of complete artillery guns -- 88-millimeter (mm), 210-mm, and 305-mm -- from semifinished surplus stocks and raw materials accumulated during the war. Skoda is also reported to have produced the 210-mm gun for the Soviet Army and for export. 2/ The Skoda plants at Pilsen and Dubnica Nad Vahom both have facilities for producing heavy artillery, but information on the current output of these plants is lacking. 3/

The largest producer of small arms in the country is the Zbrojovka Plant at Brno. In April 1952, it was reported to have increased the production of automatic weapons and concurrently reduced rifle production. 4/ The Zbrojovka Plant in Vsetin appears to be concentrating on the production of machine guns. 5/ The plant in Strakonice produces parts for small arms and finished automatic pistols, and the plant at Uhersky Brod is reported producing small

^{*} See Appendix A for types of weapons in production and Appendix B for a list of the armaments plants in the European Satellites.

** Footnote references in arabic numerals are to sources listed in Appendix E.

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arms components. 6/ A Zbrojovka plant located at Povazska Bystrica has been reported to be producing weapons, including pistols, 37-mm anti-aircraft guns, and bazookas. 7/

B. Hungary.

Hungary produces small arms in large quantities and a small number of artillery pieces and mortars. Hungary supplies most of the light weapons needed by the Hungarian Army but depends on outside sources for heavy weapons. Today there are indications that pistols and submachine guns are being produced in quantities sufficient to permit export to other Satellites. The artillery pieces which are reported to have been produced include the 37-mm, 76-mm, 85-mm, and 122-mm guns, with apparent emphasis on the 122-mm guns. 8/

During World War II Hungary produced the 8-mm rifle; 7.65-mm and 9-mm pistols; 9-mm submachine gun and 8-mm heavy machine gun; 50-mm, 81.4-mm, and 120-mm mortars; 105-mm and 150-mm artillery pieces; 20- and 40-mm antiaircraft guns of the Bofors type; 37-mm antitank guns; and 75-mm mountain guns. 9/ Since the Communist domination of Hungary, a gradual rebuilding of the armaments industry has taken place.

Small arms are produced mainly in and around Budapest at the Lampart Works (formerly Frommer and Company) 10/ and the Danuvia plant. 11/ Some production of small arms, mortars, and arms components is reported at the Matyas Rakosi plant (formerly Manfried Weiss Steel and Metallurgical Industries, Ltd.) in Budapest. 12/ Artillery is produced at the Diosgyor Iron and Steel Works (Mavag), and gun carriages have been reported in production in 1952 at the Mavag factory in Gyor. 13/

C. Poland.

The Polish armaments industry is producing small arms and some artillery and antiaircraft guns and components. Small arms produced include pistols, submachine guns, rifles, and light and heavy machine guns. Possibly 122-mm and 152-mm howitzers are in production, as well as an 85-mm antiaircraft gun. 14/ At least components of these weapons are being produced. Poland produces enough small arms for self-sufficiency and for export but will apparently not become independent of outside assistance for heavier weapons.

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Poland's industrial facilities suffered extensive damage from World War II and the postwar removal of machinery by the USSR. An agreement with the USSR in 1949 defined the scope of the Polish munitions industry. By its terms Poland was to manufacture pistols; rifles; machine guns; light antiaircraft, artillery, and antitank weapons; and ammunition -- all of Soviet design. Polish efforts in the field of heavier artillery were to be limited to the manufacture of artillery components both for the Polish Army and for the USSR. 15/

The major producers of small arms are the State Armaments factory (Panstwowa Wytwornia Karabinow) in Radom 16/ and the State Rifle factory (Panstwowa Fabryka Karabinow) in Warsaw. 17/ The Stalin Works in Poznan (formerly H. Cigielski) gained extensive experience during the war in the production of a German machine gun, and it remains today a major producer of machine pistols, carbines, and barrels for other small arms. 18/ A large Soviet ordnance shop at Masselwitz near Breslau has been reported to be assembling guns, pistols, and carbines from Soviet-made parts 19/ and probably conducts overhaul and repair operations rather than the original production of weapons.

During World War II, Poland assembled the German 88-mm antiaircraft guns but made no artillery from domestically produced components. 20/ Today artillery components and possibly artillery pieces are in production at the Stalowa Wola plant near Sandiomerz. This is a large iron and steel plant, and the 122-mm howitzer, 152-mm howitzer, and 85-mm antiaircraft gun have been reported in production there in limited numbers. 21/

Poland does not contribute to the development and testing of new weapons. The production of complete weapons seems to be less important in the Soviet plans for Poland than other phases of the armaments industry, such as semifinished and finished components used in tanks and artillery.

D. East Germany.

The armaments industry of East Germany has been limited to the production of small arms at the former center of the small arms industry of Germany, Suhl and Zella-Mehlis. Some sources have indicated that current production of military equipment in East Germany is being limited to those plants which can be moved easily and which produce auxiliary equipment, such as electronics equipment and instruments. 22/

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The contribution of the East German armaments producers to the Soviet Bloc is difficult to appraise.

Following World War II the industrial potential of East Germany was vastly altered by the Soviet reparations program, and from 1945 to 1949 a general conversion to civilian and peacetime production was carried out. In Suhl the small arms plants during the period from 1946 to 1951 produced shotguns, airguns, and sporting rifles. In 1951 the Soviet authorities organized these plants under the name of the Ernst Thaelmann Werke, and 1952 plans called for the combine to produce large numbers of rifles, pistols, and submachine guns. By 1953 it was reported that plans called for the production of over 200,000 small arms at Suhl. 23/There is no direct evidence of the fulfillment of these plans, but it is certain that small arms in relatively large quantities are being produced there.

The East German technicians who were transferred to work in armaments plants in the USSR have contributed considerably to the testing and development of Soviet weapons since the war.

Several reports indicate that tank parts and artillery components are also being manufactured in East Germany, 24/ but there are no indications of complete production of any weapons other than small arms. It is doubtful that the armaments production facilities of East Germany will be expanded in the next few years.

E. Rumania.

Rumania is a modest producer of small arms, mortars, and artillery. Small arms that are probably in production today include pistols, rifles, carbines, light machine guns, and submachine guns. Current reports indicate that artillery production is limited to the 76.2-mm field gun and antitank gun and the 122-mm howitzer. Mortars are reportedly produced, but there is no indication of the size or extent of production. 25/ The quantity of weapons produced in Rumania is probably sufficient to satisfy the current needs of the Rumanian Army. Rumania is still dependent on outside sources for heavy artillery and other heavy armaments.

The capacity of the armaments industry was not seriously reduced following World War II. That capacity has been maintained by a government order which provides that 40 percent of the equipment for

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armaments production cannot be used for nonmilitary purposes. 26/ Industrial capacity has been increased in a number of the nationalized firms including the Sovrommetal Combine at Recita, a major arms producer.

Rumania has developed a few weapons locally but for the most part Czechoslovak, German, and British models were produced. Rumanian-designed weapons which were produced in the past were the Orita 9-mm submachine gun and a 120-mm mortar. 27/ Rumania does not at present contribute to the Soviet efforts in development and testing of weapons, but produces weapons of Soviet design.

The largest producer of small arms in Rumania is the Copsa Mica and Cugir Metal Works. In 1943 this plant produced 5,000 machine guns and spare parts. 28/ It was converted to the production of sewing machines after the war, but in 1951 returned to the production of small arms. 29/ Data on current production are not available. Small numbers of artillery and mortars are reportedly produced at the Sovrommetal Combine at Recita (formerly the Recita Iron and Steel Works). Sovrommetal has been built up since nationalization in 1949 by importing machines and machine tools and Soviet technicians. Armaments are only one of the products of this large combine, which is the major steel producer in Rumania. 30/

It is not likely that Rumania will produce more than enough armaments to satisfy its own current needs. Rumanian industry is hampered by shortages of basic raw materials, inadequate transportation, and a lack of skilled technicians. 31/

F. Bulgaria.

Small arms production in Bulgaria, although reportedly carried on in several plants, probably consists of the assembly and repair of small arms, for which some parts may be produced. Bulgaria lacks the technical progress, plant capacity, and raw materials to carry on a large armaments program. 32/ Even with Soviet assistance it is doubtful that the armaments industry in Bulgaria will become an important producer of Soviet Bloc weapons in the near future.

G. Albania.

There is nothing to indicate that this industrially backward country has any facilities for the production of armaments. Limited repair facilities are its only contribution in ordnance activities.

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II. Organization of the Satellite Weapons Industries. 33/

A. Mechanics and Extent of Soviet Control.

Soviet control over armaments production in each Satellite is strong and is achieved by means of a formal and an informal organizational arrangement. Formal control stems from the Soviet Military Mission in each Satellite, which has a subsection with responsibility for war or armaments industry in the Satellite. This control may be exercised through a parallel armaments section of the General Staff of the Satellite concerned or, in the case of important plants, may mean the assignment of members of the Soviet Military Mission to the plant in question. Informal control is insured by placing Russians in key positions in the Satellite military establishment and/or armaments industry. These Russians may be Soviet citizens or may qualify in some dubious way for citizenship in the Satellite.

B. Regulation and Control of Production.

Within the governmental structure of each Satellite the regulation and control of armaments production is patterned on that of the USSR. Control of such production is centered in a ministry that usually carries a title such as the Ministry for Metallurgical and Mechanical Industries in Hungary or the Ministry for Machine Construction in East Germany. At the present time these ministries do not concentrate exclusively on armaments production, but contain subdivisions which do. In addition every ministry has a secret section that coordinates the production of raw materials or component parts for armaments purposes within the ministry or, in cases where there is not such activity, this section may plan for mobilization in the same fashion as the Mobilization Departments in the USSR.

C. Roles of the USSR and the Satellites in Policy Planning.

The armaments policy of the Satellites is largely determined by the USSR. The role of a particular Satellite is confined to carrying out the given policy. Further, Soviet policy for Satellite armaments production is probably based on the Soviet Bloc as a whole and not on an individual basis. Once policy is decided by the Soviet Ministry of Defense or by a higher level, it is transmitted through Soviet channels to the Soviet military missions in the various Satellites. It is probable that planning for armaments production in the Satellites

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is Bloc-wide and is not based on self-sufficiency for each Satellite. The USSR probably intends that Czechoslovakia supply vehicles and small arms to other Satellites. It is further probable that heavy weapons are being sold by the USSR to the Satellites. The rehabilitation and overhaul of these weapons by the Satellites has given rise to many reports exaggerating the extent of new production of heavy weapons by various Satellites.

Within this framework, policy decisions are transmitted by the Soviet Military Mission to the Ministry of Defense in the Satellite concerned. This Ministry submits requirements to the national economic planning body, where defense requirements have a priority. Thereafter, these requirements become orders and contracts for which facilities and materials are allotted in the usual way. Fulfillment is checked on by official or unofficial Soviet functionaries along the way.

III. Production Trends as Indicated by the Defense Budgets.

The Soviet defense budget, properly distributed between military hard goods and other expenditures, tends to show changes over time in production for military use. In a similar way meaning may be attached to the budget allocations for defense and security by the European Satellites. Broad trends in defense production may be indicated by the relative portions of the State budgets devoted to defense and security purposes. Although these expenditures are preponderantly for services and items other than military hard goods, it is expected that expenditures for the latter will move in a manner similar to aggregate defense expenditures. The proportions are shown in Table 1.*

In general the proportion allocated to defense and security in 1949 and 1950 exceeded the percentage in 1953 and 1954. This relative change was probably not at the expense of the production of military hardware in absolute terms, because budget expenditures for all purposes generally increased considerably for the above period. This increase was actually sufficient to allow an absolute increase in defense expenditures and hence in expenditures for military hardware.

^{*} Table 1 follows on p. 9.

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Table 1

Percentage of Budget Allocated for Defense and Security in the European Satellites

1949-54 a/

						Percent
Country	1949	1950	1951	1952	1953	1954
Albania Bulgaria Czechoslovakia East Germany b/ Hungary Poland c/ Rumania	18 N.A. N.A. 5 16 10	25 14 N.A. 5 20 13 14	N.A. 8 9 N.A. N.A. 11 16	N.A. 12 7 N.A. 14 15	10 12 10 4 14 15	11 9 N.A. N.A. N.A.

a. Assembled by CIA; data are provisional.

IV. Production of Weapons. 34/

A. Small Arms.

Small arms production in the Satellites for the fiscal year 1954 (Table 2)* is estimated to be approximately 400,000 units of all types. This estimate reflects little significant change from G-2 estimates for fiscal year 1953, except for East Germany, which is now reported to be producing some small arms.

The Satellites appear to have ample small arms available to equip all known military units. 35/ The number of weapons required to take care of normal attrition (Table 3)** represents only about 15 percent

b. An allocation is not shown for defense in 1949 and 1950. The figures are only for internal affairs for those years. Does not include occupation costs.

c. The figures for 1949 and 1950 do not include expenditures for Justice, which are included in other years.

^{*} Table 2 follows on p. 10.

^{**} Table 3 follows on p. 11.

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of estimated current production. Some troops may, however, not have standard type weapons at present. More than 340,000 small arms are left for increasing reserves, replacing nonstandard items now in use, and exporting to other countries.

Table 2

Estimated Production of Small Arms in the European Satellites a/
Fiscal Year 1954

		· · · · · · · · · · · · · · · · · · ·			 	Units
Country	<u>Pistols</u>	Rifles and Carbines	SMG's	LMG's	HMG's	Total
Albania Bulgaria Czechoslovakia East Germany Hungary Poland Rumania	44,000 6,000 15,000 5,000 2,000	69,000 10,000 15,000 90,000	44,000 4,000 16,000 50,000 7,000	12,000 4,000 5,000 1,000	1,000	0 Negligible 170,000 20,000 50,000 150,000 10,000
Total	72,000	184,000	121,000	22,000	1,000	400,000

a. See Appendix C, Methodology.

B. Mortars.

Mortar production in the Satellites for fiscal year 1954 (Table 4)* is estimated at approximately 1,700 pieces, with Czechoslovakia and Hungary being the principal producers. There is no information that Poland is producing complete mortars at the present time.

Latest inventory estimates $\underline{36}/$ indicate that the Satellite armies are at present about 30 percent below table of organization (T/0) and table of equipment (T/E) requirements. $\underline{37}/$ Estimated total

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^{*} Table 4 follows on p. 12.

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Table 3

Requirements Relative to the Production of Small Arms
in the European Satellites
Fiscal Year 1954

				Units
Country	T/E <u>38</u> / Requirements	Estimated Annual Attrition a/	Estimated Annual Production b/	Production Less Attrition
Albania	51,500	2,600	0	-2,600
Bulgaria	206,200	10,300	Negligible	-10,300
Czechoslovakia	195,000	9,800	170,000	160,200
East Germany	143,100	7,200	20,000	12,800
Hungary	153,500	7,700	50,000	42,300
Poland	240,000	12,000	150,000	138,000
Rumania	173,300	8,700	10,000	1,300
Total	1,162,600	58,300	400,000	341,700

a. Attrition estimated at 5 percent of T/E, assuming fully equipped active organization.

production will cover attrition (figured at 5 percent of T/E) leaving about 65 percent of the output to increase inventories (Table 5)*.

C. Artillery.

The production estimate for the Satellites in 1954 (Table 3) indicates a slight increase in production from the G-2 estimate for 1953, but this will have little effect in satisfying their over-all needs. Total production is believed insufficient to satisfy internal requirements. (Table 6).**

b. From Table 2.

^{*} Table 5 follows on p. 13.

^{**} Table 6 follows on p. 14.

Table 4

Estimated Production of Mortars and Artillery in the European Satellites a/Fiscal Year 1954

Units Artillery Mortars 122-mm 152**-mm** Total 85**-mm** 100-mm Howitzer 210-mm Total 82-mm 120-mm 57**-mm** Country 0 0 Albania Negligible Negligible Bulgaria 75 10 600 200 140 50 125 400 Czechoslovakia 500 900 0 East Germany 450 250 700 Negligible Hungary Negligible Poland Negligible Negligible 100 100 Rumania 200 140 125 10 600 950 750 1,700 <u>50</u> <u>75</u> Total

a. See Appendix C - Methodology.

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Requirements Relative to the Production of Mortars in the European Satellites
Fiscal Year 1954

Country	T/E <u>39</u> / Require- ments	Estimated 40/ Inventory a/	Estimated Annual Attrition b/	Estimated Annual Production c/
Albania Bulgaria Czechoslovakia East Germany Hungary Poland Rumania	410 2,040 2,060 1,640 1,540 2,560 1,680	440 1,400 1,850 580 1,270 1,610 1,100	20 100 100 80 80 130 80	0 Negligible 900 0 700 Negligible 100
Total	11,930	8,250	<u>590</u>	1,700

Units

V. Input Requirements.

There is almost no direct information concerning the input coefficients of weapons production in the European Satellites. Even for labor the available information cannot be related specifically to the output of weapons, because the manufacturing facilities ordinarily produce many items along with weapons and parts of weapons. Inputs are therefore selected and presented according to two criteria:

(1) where analogy with the US yields acceptable results, and (2) where the productive service is sufficiently important to warrant an estimate in spite of a considerable range of error. The inputs selected by the first criterion are three metallic inputs; steel, copper, and aluminum. The only input selected by the second criterion is labor.

a. Much of this equipment is not Soviet caliber, especially in

b. Attrition estimated at 5 percent of T/E, assuming active units fully equipped.

c. From Table 4.

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The latter estimate is based on US experience; hence, it must be considered a minimum requirement.

Table 6

Requirements Relative to the Production of Artillery in the European Satellites
Fiscal Year 1954

				Units
Country	T/E 41/ Require- ments	Estimated 42/ Inventory a/	Estimated Annual Attrition b/	Estimated Annual Production <u>c</u> /
Albania Bulgaria Czechoslovakia East Germany Hungary Poland Rumania	820 3,330 2,180 1,760 2,530 3,200 2,910	520 2,360 3,740 1,260 1,340 2,080 2,260	40 170 110 90 130 160	O Negligible 600 O Negligible Negligible Negligible
Total	16,730	13,560	850	600

a. Much of this equipment is not Soviet caliber, especially in Czechoslovakia.

The inputs per weapon in Table 7* are based on US production experience. The metal requirements per weapon are not likely to vary significantly from country to country and may be used with some confidence. The labor requirements, however, vary considerably from country to country. Labor is undoubtedly more efficient in the US than in the Satellites and the labor figures which represent only

b. Attrition rate estimated at 5 percent assuming active units fully equipped.

c. From Table 4.

^{*} Table 7 follows on p. 15.

Table 7

Inputs of Steel, Aluminum, Copper, and Direct Labor Per Weapon in the European Satellites 43/

Weapons	Ste (Pou	el nds) Alloy	Aluminum (Pounds)	Copper (Pounds)	Labor (Man-hours)
Pistol Rifle Sub-machine Gun Light Machine Gun Heavy Machine Gun Mortar, 82-mm Mortar, 120-mm 57-mm Gun 85-mm Gun 100-mm Gun 122-mm Howitzer 152-mm Gun/Howitzer 210-mm Gun	11.6 11.7 23.8 74.6 29.4 105 497 1,340 2,510 5,110 2,480 6,760 31,400	1.3 10.9 0.6 28.7 154 173 818 5,730 5,620 11,400 11,000 28,900 211,000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Negligible 0 Negligible 0 0 6.4 30.3 50.7 93.7 191 119 0 1,520	1.4 6.3 4.7 54.0 31.8 127 508 1,620 2,400 4,880 3,170 10,100 60,900

direct labor must be considered a minimum. Direct and indirect labor requirements would probably exceed these amounts by 50 to 75 percent.

Aggregate inputs are computed and given in Table 8.*

Table 8 indicates that steel requirements are in excess of 11,000 tons, that aluminum and copper requirements are relatively small, less than 5 and 50 tons respectively, and that direct labor requirements are in excess of 2,600 man-years. Forty percent of the total labor requirements can be expected to be indirect in such an industry. Therefore it is assumed that direct and indirect labor requirements exceed 4,000 man-years.

^{*} Table 8 follows on p. 16.

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Table 8

Inputs Required for the Estimated Production of Weapons in the European Satellites
Fiscal Year 1954 a/

Class of Weapons	Stee (Short Carbon		Aluminum (Short Tons)	Copper (Short Tons)	Labor (Man-years) <u>b</u> /
Small Arms Mortars Artillery	3,930 280 1,000	1,560 460 4,080	2 2 0	1 13 31	1,300 240 1,070
Total	<u>5,210</u>	6,100	<u>4</u>	<u>45</u>	2,610

a. Computed from values of Tables 2, 4, and 7.

VI. Capabilities, Vulnerabilities, and Intentions.

A. Capabilities.

The European Satellites are capable of producing greater numbers of small arms, mortars, and artillery pieces by further expanding their existing production facilities. Present capacity is estimated to be below wartime capacity. However the developing industrial base in the Satellites makes them increasingly capable of conversion to the production of military hard goods.

Input requirements in peacetime of steel, aluminum, and copper are so small in relation to peacetime production of these metals that considerable expansion of the weapons output would be possible if given priority over other production.* Manpower for this industry is probably

b. A man-year is assumed to equal 2,500 man-hours.

^{*} European Satellite 1954 production estimated by CIA as follows: steel, 10 million short tons; aluminum, 119,000 short tons; copper, 67,000 short tons.

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not currently in short supply. The supply of skilled labor and technicians is satisfactory and flexible in the countries of largest weapons production -- Czechoslovakia and Hungary.* Machine tools for weapons production are available in general, although supplies are not large in Rumania, Bulgaria, and Albania.*

B. Vulnerabilities.

The presence of a large number of dissatisfied workers constitutes the greatest vulnerability in the Satellite weapons industries. The weapons industries, as well as other Satellite industries, must depend either on older experienced technicians and engineers who are very likely not sympathetic with the Communists, or they must depend on the younger postwar-trained technicians who are politically reliable but may be lacking in experience. The politically reliable workers are being placed in positions of control. Either of the above alternatives allows inefficiencies in production. Standards of work produced in the Satellites are closely watched when the product involved is of importance to the USSR. 44/ Defections from East Germany have seriously reduced the number of skilled technicians available to industry there.

Close control by Soviet representatives in armaments plants and the tight security system in force in these plants cannot completely eliminate the errors caused by inefficiencies, intentional and otherwise. During mobilization these manpower weaknesses are likely to become more acute.

C. Intentions.

The present rate of production of small arms, mortars, and artillery in the Satellites does not indicate hostile intentions on the part of the Soviet Bloc. The apparent surplus of small arms being produced is probably being used to equip the Satellite armies with Soviet-type weapons. Some of these small arms are produced for export, particularly those produced in Czechoslovakia. After the Satellite armies are equipped with new weapons, the continued production of weapons at the present rate would raise the question of what is to be done with all of these weapons. This production continued over the next few

^{*} CIA estimate.

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years might then be interpreted as an indication of hostile intentions by the Soviet Bloc.

The USSR will probably continue to control the Satellite weapons industries, economically, since it is strategically advantageous to do so. The continued export of small arms from Czechoslovakia and possibly Poland and Hungary can be expected because it is economically advantageous to the country and also contributes to the war potential of the Soviet Bloc by maintaining a market for weapons currently produced.

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APPENDIX A

TYPES OF WEAPONS IN PRODUCTION

Weapons currently in production in most of the Satellites are believed to be of Soviet design and caliber, although Czechoslovakia is still reported to be producing weapons of native design. Whether the Czechoslovaks have completely stopped production of their basic 7.92-mm small arms in favor of the Soviet 7.62-mm weapons is not definitely known.

The list of weapons shown in Table 9 was compiled from a series of intelligence reports and other reliable information. Types which were mentioned but not confirmed by other sources as being in production have not been included.

Table 9

Types of Weapons Currently Produced in the European Satellites

Weapon	Caliber (Millimeters)	Design	Туре
Pistols	6.35 7.62 7.65 9	Czechoslovak Soviet Czechoslovak Czechoslovak	Zbrojovka Tula Tokarev M1933 Zbrojovka Zbrojovka
Carbines	7.62 7.92	Soviet Czechoslovak	Reported as model P-18
Submachine Guns	7.62 7.62 9	Soviet Czechoslovak Czechoslovak	PPSh (Produced with solid (and folding stocks
LMG	7.62 7.92	Soviet Czechoslovak	Model 26
HMG	7.92 12.7	Czechoslovak Unspecified	Model 37

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Table 9

Types of Weapons Currently Produced in the European Satellites (Continued)

Weapon	Caliber (Millimeters)	Design	Туре
Mortars	82	Soviet	
	120	Soviet	
Artillery	57	Soviet	Reported both as AA and AT
	85	Soviet	Divisional gun, M1945
	100	Soviet	Possibly field-anti- tank gun, M1944
	122	Soviet	Howitzer, M1938
	152	Soviet	May be gun-howitzer M1937
	210	Czechoslovak	Skoda M1939

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APPENDIX B

ARMAMENTS PLANTS IN THE EUROPEAN SATELLITES

Appendix B is a list of plants which produce complete weapons or major components of weapons. Producers of minor components and those for which information is unverified by other intelligence reports are not included.

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 $\label{eq:Table 10} \mbox{ Table 10}$ Armaments Plants in the European Satellites by Country and Product

City		Firm Name	Production			
	Coordinates		Small Arms	Mortars	Artillery	Remarks
Bulgaria Kazanluk	42 ⁰ 38' 25°33'	State Arsenal (Zavod No. 10)				Parts for small arms and artillery. Possibly limited pro-
Karlovo Kalofer Lovech Sopot	42°38' 24°29' 42°37' 24°59' 43°08' 24°43' 43°01' 24°26'					duction of complete end item. 45/ Repair and assembly of parts for small arms and mortars. 46
Czechoslovakia Brno-Zabrdovice	49°12' 16°38'	Zbrojovka 01	55,000			Rifles, submachine guns, machinguns. Largest small arms cape
Vsetin Strakonice	49 ⁰ 20' 18 ⁰ 00' 49 ⁰ 16' 13 ⁰ 54'	Zbrojovka 03 Ceska Zbrojovka	12,000 80,000			city in Czechoslovakia. 47/ Rifles and machine guns. 48/ Pistols, submachine guns, small
Uhersk y Brod Povazska Bystrica	49 ⁰ 02' 17 ⁰ 39' 49 ⁰ 07' 18 ⁰ 27'		23,000	900		arms components. 49/ Small arms components. 50/ Rifles, machine guns, mortars.
Dubnica nad Vahom	48°58' 18°11'	Voroshilov Works, Skoda			600	51/ Artillery production and re-
Pilsen	49°45′ 13°22′	Lenin Works, Skoda				pair. 52/ Components for weapons. Possible production of some mili-
Vitkovice	49 ⁰ 49' 18 ⁰ 16'	Vitkovice Iron Works				tary end items. 53/ Castings and forging for weapon
Kladno	50°09' 14°06'	Poldina Hut				54/ Barrels for small arms. 55/
Total			170,000	900	600	221

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Table 10

Armaments Plants in the European Satellites by Country and Product (Continued)

				Production		
City	Coordinates	Firm Name	Small Arms	Mortars	Artillery	Remarks
East Germany Suhl	50°37' 10°41'	VEB Ernst Thaelmann Combine	20,000			Pistols, rifles, submachine. guns. <u>56</u> /
Hungary Budapest	47 ⁰ 29' 1 9⁰06'	Danuvia Fine Mechanical Factory Lampart, Frommer and Company	1,500 48,500	700		Submachine guns, machine guns, and small arms components. 52/Small arms components. 58/
Czepel Island	47 ⁰ 26′ 19 ⁰ 04′	Magyar Acelarugyar Matyas Rakosi Muvek (Manfried Weiss)				Small arms components. 59/ Possible production of small arms, mortars, and artillery. 60/
Diosgyor	48°06' 20°44'	Hungarian State Iron Works			Negligible	Artillery repair and some pro- duction: 61/
Gyor	47°41' 17°38'	MAVAG				Artillery components. 62/
Total			50,000	<u>700</u>	Negligible	
Poland Warsaw	52°14' 20°58'	Panstwowa Fabryka Karabinow, State	40,000			Small arms components. 63/
Radom	51°25' 20°09'	Rifle Factory State Weapons Factory, General Walter Works	110,000	Negligible		Small arms and components for mortars. Possible mortar pro- duction. 64/
Poznan	52 ⁰ 24′ 16 ⁰ 55′	Stalin Plant				Small arms components and poss- ibly some finished weapons. 65
Stalowa Wola	50 ⁰ 341 22 ⁰ 031	Stalowa Wola Steel Plant			Negligible	Barrels for small arms. 66/
Starachowice	51°03' 21°04'	Starachowice Mining Enter- prise				Facilities for artillery production. 67/
Total			150,000	Negligible	Negligible	

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Table 10

Armaments Plants in the European Satellites by Country and Product (Continued)

			Production			
City	Coordinates	Firm Name	Small Arms	Mortars	Artillery	Remarks
Rumania						IIIMILE AIS
Cugir	45°50' 23°22'	Copsa Mica and Cugir Metal	10,000			Pistols, submachine guns, ma-
Recita	45°18' 21°54'	Works Sovrommetal Kombinat		100	Negligible	chine guns. 68/ Some weapons manufacture and
Bucharest	44°25′26°06′	23 August Plant			00	repair. 69/ Components. 70/
Total			10,000	100	Negligible	- <u>-</u>

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APPENDIX C

METHODOLOGY

1. Weapons Production Estimates.

Weapons production estimates were taken from a series of intelligence reports on the principal arms factories within each country. These estimates were then resolved into an over-all estimate for each country and compared with earlier ORR branch and G-2 estimates. For years subsequent to the latest year for which information on production is available, in some cases 1950, production was assumed to remain constant.

2. T/E Requirements Estimates.

In determining the T/E requirements of each Satellite for Tables 3, 5, and 6 the following methodology was used: (a) the number of each type of unit, division, brigade, and regiment for each Satellite army was determined from the Order of Battle Summary,* (b) the number of weapons of each class required for each unit was determined on the basis of tables from the Logistical Guide to Soviet Army Units,** and (c) the number of units was multiplied by the number of weapons required for that unit, giving a total by type of weapons for each Satellite.

3. Estimates of Inputs Per Weapon.

Inputs per weapon are based on inputs per unit weight of output for various kinds of weapons as determined in CIA/RR PR-47, 29 January 1954.*** These inputs per unit weight multiplied by the weight of the various Satellite weapons as given in G-2 publications gives the input per weapon. Inputs are based on US experience and are subject to errors inherent in such a comparison.

^{*} Source No. 35.

^{**} Source No. 38.

^{***} Source No. 43.

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APPENDIX D

GAPS IN INTELLIGENCE

The biggest gap in intelligence is the lack of specific information on weapons production since 1950. Information on the wartime production of weapons is available, as are numerous reports on weapons production prior to 1950.

There is also need for detailed studies of each of the major weapons-producing plants in the Satellites. Intelligence coverage of some of the major weapons producers, such as Skoda in Czechoslovakia and MAVAG in Hungary, is good enough to warrant such studies. These analyses are important as a basis for determining plant capacity and individual plant production and should be one of the bases upon which over-all estimates for the industry are made.

Another major gap in intelligence is the lack of a comprehensive 25X1B#dudy of weapons produced in the Satellites.

Much intelligence information could be gained on the types, and possibly the number of weapons produced, by an analysis

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APPENDIX E

SOURCES AND EVALUATION OF SOURCES

1. Evaluation of Sources.

The files of the Industrial Register were used extensively to develop the data on the individual weapons plants. Information from the Industrial Register consolidations, when compiled and correlated with other intelligence reports, is considered reliable. CIA, Army, Navy, and Air Intelligence reports on armaments activities in the Satellites were used.

The source material for the input data was CIA/RR PR-47, which is considered fairly reliable for the inputs used.

Finished intelligence reports by the Army, CIA, were used, and are considered reliable.

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2. Sources.

Evaluations, following the classification entry and designated "Eval.", have the following significance:

Source of Information	Information				
Doc Documentary A - Completely reliable B - Usually reliable C - Fairly reliable D - Not usually reliable E - Not reliable F - Cannot be judged	 1 - Confirmed by other sources 2 - Probably true 3 - Possibly true 4 - Doubtful 5 - Probably false 6 - Cannot be judged 				

"Documentary" refers to original documents of foreign governments and organizations; copies or translations of such documents by a staff officer; or information extracted from such documents by a staff

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officer, all of which may carry the field evaluation "Documentary" instead of a numerical grade.

Evaluations not otherwise designated are those appearing on the cited document; those designated "RR" are by the author of this report. No "RR" evaluation is given when the author agrees with the evaluation on the cited document.

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                 CIA, IR Consolidation No. 9050163.
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                  CIA, IR Consolidation No. 8016818.
                  CIA, IR Consolidation No. 8016808.
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